

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA      )      Case No. 09-10243-MLW  
  )  
  )  
v.                                     )  
  )  
RYAN HARRIS,                        )  
  )  
Defendant                             )

**GOVERNMENT'S SENTENCING MEMO**

On March 1, 2012, a jury convicted Ryan Harris of seven counts of wire fraud, in violation of 18 U.S.C. §1343.<sup>1</sup> Sentencing is scheduled for June 27, 2012. The government submits this memorandum to address issues it anticipates will arise at Harris's sentencing and in support of its recommendation that the Court impose a sentence, at the low end of the proposed Guideline range, of:

- 70 months in prison
- No fine, in light of the defendant's financial circumstances and restitution obligation
- \$152,320 restitution
- 3 years supervised release
- \$700 special assessment

***THE FRAUD SCHEME***

Over the course of six years, from 2003-2009, defendant Ryan Harris, through his \$1 million commercial enterprise, TCNiSO, purposefully designed, manufactured, and distributed a series of self-styled "cable modem hacking" products and services that were intended to, and in fact did, help his users steal cable internet service from their local Internet Service Providers ("ISPs"). He helped

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<sup>1</sup> The Superseding Indictment charged Harris with one count of conspiracy and ten counts of wire fraud. The government dismissed two of the wire fraud counts before trial. The Court granted the defendant's Rule 29 motion on the conspiracy count. And the jury acquitted the defendant on the final wire fraud count.

two types of users steal service: users who were not subscribers of any internet service, and users who were subscribers but typically paid for the slowest (and therefore cheapest) level of service. With Harris's help, non-subscribers obtained internet service without paying any fees at all (i.e., they engaged in "theft of service"), and bare-bones subscribers obtained much faster internet service without paying the required premiums (i.e., they engaged in what Harris called "uncapping").

Harris's cable modem hacking products had two key functionalities: a "packet sniffer" (which he dubbed "CoaxThief") and a MAC address/configuration file changer. Through his packet sniffer, Harris helped his users surreptitiously intercept internet traffic so that the users obtained the MAC addresses and configuration files of nearby modems. Through his MAC address/configuration file changer, Harris helped his users change their modem's MAC addresses to MAC addresses belonging to legitimate, paying (or premium) subscribers and change their configuration file to one that allowed the user faster, premium internet service. In essence, Harris helped his users disguise themselves as legitimate, paying (or premium) subscribers and defraud ISPs into providing them with free or faster internet service.

But Harris did far more than just design, develop, and sell his cable modem hacking tools. He also provided ongoing, valuable assistance to ensure that his users were successful in defrauding ISPs. For example, he set up and operated an online bartering platform for his users to trade or acquire stolen MAC addresses and configuration files.<sup>2</sup> Harris also set up and operated an online user feedback forum, on which he elicited from his users information about ISPs' efforts to detect

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<sup>2</sup> ISPs typically will not allow two users in the same neighborhood to share the same MAC address; one or both users will get knocked offline. Harris's users, therefore, could not successfully use MAC addresses that they sniffed and instead had to trade them for MAC addresses of users in another neighborhood.

and block his products from their networks. Harris would then design new work-arounds to defeat the ISPs' detection and blocking techniques in what was a continual game of "cat and mouse" with the ISPs. He also offered instruction manuals and online and video tutorials about how to use his products.

The wire fraud counts stem from Massachusetts residents' buying or downloading Harris's products from his website and from those customers' use of those products to obtain internet access without paying. Specifically, the first four counts of conviction relate to wire transmissions involving Worcester resident Nathan Hanshaw (two wires relate to instances in which Hanshaw accessed the internet from Massachusetts to download TCNiSO's products, and two wires relate to instances in which he successfully used TCNiSO's products to access the internet without paying). The next two counts stem from the purchase and use of Harris's products by Jose Larosa. And the final count of conviction relates to William Madeira's purchase of a modified modem from the TCNiSO website.

### **THE GUIDELINES CALCULATION**

The government agrees with the Guidelines calculation set out in PSR ¶¶24-33, with the exception of the loss/gain calculation. For that calculation, the parties have agreed (after the PSR was drafted) to use a somewhat lower figure, as is discussed further below. The government therefore proposes the following Guideline calculation:

Base Offense level	(2B1.1)	7
Gain > \$400,000	(2B1.1(b)(1)(H))	14
Sophisticated means	(2B1.1(b)(10)(C))	2
Leader/Organizer	(3B1.1(a))	<u>4</u>

Total	27
GSR	70-87 months

#### A. Gain

Application note 3(B) to §2B1.1 states: “[t]he court shall use the gain that resulted from the offense as an alternative measure of loss only if there is a loss but it reasonably cannot be determined.” This is such a case. *See, e.g., United States v. Parsons*, 141 F.3d 386, 392-393 (1<sup>st</sup> Cir. 1998) (using gross gain instead of loss in sentence calculation in context of § 2F1.1); *United States v. Tzolov*, 435 Fed. Appx. 15, 16 (2d Cir. 2011) (using gain instead of loss under § 2B1.1); *United States v. Parrish*, 84 F.3d 816, 819 (6th Cir. 1996) (using gain instead of loss in the context of § 2F1.1).

Three Massachusetts users, along with Harris’s roommate Craig Phillips, testified at trial that they stole internet access using Harris’s products. And user posts on the TCNiSO website demonstrate that many others did the same. On a portion of his website included in trial exhibit 2, Harris noted that he had sold more than 15,000 products. Because the trial testimony proved, and the jury found, that these products were designed and used to steal internet service, it is reasonable to assume that most, if not all, of these 15,000 products were used in this way.

Benjamin Brodfuehrer, of Charter Communications (an ISP/cable provider), testified that TCNiSO posed a significant enough problem for Charter that the company assigned employees to buy modified modems from TCNiSO and test them, in an effort to develop ways to prevent theft of service. Christopher Kohler, of Motorola, testified that TCNiSO was a problem not just for the ISPs but also for Motorola, which manufactured the modems that TCNiSO hacked. TCNiSO’s success in hacking Motorola modems damaged the company’s reputation and threatened its future sales.

Kohler testified that Motorola, therefore, bought TCNiSO modems and software and tasked engineers to design security measures aimed at blocking TCNiSO's hacks. These defensive measures were successful for a time, according to Kohler, but Harris and his group were always ultimately able to circumvent them. While the evidence has, therefore, proved that Harris caused a significant loss to ISPs around the country and harmed Motorola as well, it is difficult to determine these losses with any reasonable degree of accuracy.

Only Charter, the country's fourth largest cable internet provider, has attempted to calculate the loss it suffered as a result of Harris's products. To do this, Charter asked the government for the information for TCNiSO customers who lived in states where Charter provided cable internet service. The FBI provided Charter with this information, which it had obtained from TCNiSO's web hosting company, GoDaddy, via a search warrant. Charter then identified, using zip codes, the TCNiSO customers who lived in areas where Charter (and no other cable company) provided cable internet service. For those customers, Charter assumed that the TCNiSO customer received premium (high-speed) cable internet service, without paying, from the date of the TCNiSO purchase to October 25, 2010, when Charter implemented a program to combat cloned cable modems. Adding up the cost of the internet service these customers received during this time period, Charter calculated that its loss was between \$304,641 and \$348,167 (depending on whether it used the standard internet service rates or discounted promotional rates). The spreadsheet detailing this calculation is attached as Exhibit 1 to this memo.

While it might be possible to extrapolate from this figure to a total loss figure for all cable companies, there are also some reasons that it does not make sense to do this. First, the Charter loss calculation uses only the GoDaddy records, which only cover the period from 2007 through 2009.

They therefore do not include the 2003-2006 portion of the scheme, when the TCNiSO website was hosted by a Russian web hosting company (not at GoDaddy). On the other hand, the Charter assumption that all TCNiSO customers successfully stole service from the date of their purchase through October 2010 is likely to be overstated, given the testimony at trial that, in some cases, customers were not able to get free internet service with the TCNiSO modems, and, even when these modems did work, that some of them stopped working after a period of time. Finally, it is not clear how we could accurately extrapolate the Charter loss figure to all of the other cable internet providers.

The government, therefore, proposes basing the Guideline calculation on the gain to Harris though revenue generated from the sale of TCNiSO's cable modem hacking products. The IRS agent assigned to the case has calculated this revenue by reviewing TCNiSO's PayPal and Washington Mutual bank records and listing each TCNiSO sale on a spreadsheet, which is summarized on a one-page spreadsheet attached as Exhibit 2 to this memo.<sup>3</sup> The yearly totals are:

2005	2006	2007	2008	2009	Total
\$163,054	\$240,191	\$294,108	\$292,165	\$129,111	\$1,118,629

The IRS spreadsheet attached as Exhibit 2 only includes the years 2005-08. The agent calculated the 2009 figure later, for inclusion in a summary chart that was intended for use at trial but ultimately not used. That chart (attached as Exhibit 3) shows the \$1,118,629 total revenue figure and also notes that Harris retained \$526,685 of this money for his personal use during the 2005-08

<sup>3</sup> Because the spreadsheet listing all of the TCNiSO sales is close to 300 pages long, and because (as is discussed below) the parties have agreed on the range for the gain figure for Harris's Guideline calculation, the government has not attached the entire spreadsheet to this sentencing memorandum, although the government did provided it to the Probation Department and provided it to defense counsel.

period.<sup>4</sup> The spreadsheet and summary chart do not include the years 2003 or 2004, so in that sense, these numbers are conservative estimates of total revenue and money retained by Harris.

On the other hand, the \$1.118 million figure likely overstates the revenue from the fraud scheme because some portion of this revenue came from lawful sources. For example, there was testimony at trial that TCNiSO listed, through its website, non-modified modems, cables, connectors, and Harris's book. Proceeds of sales of these items should not be included in the gain figure. Furthermore, Harris's eBay/Paypal income may include sales of items unrelated to TCNiSO. Therefore, in the interest of agreeing on a reasonable figure for the Guideline calculation and avoiding unnecessary litigation, the parties have agreed to ask the Court to find that the gain from Harris's fraud scheme was between \$400,000 and \$1,000,000.

#### **B. Sophisticated Means**

The trial testimony demonstrated that Harris and his employees used considerable skill and sophistication to write software and design hardware products that stole internet service from ISPs. Furthermore, the witnesses from Charter and Motorola testified that their companies worked hard to design security measures to prevent TCNiSO customers from being able to modify their modems to steal this service. They testified that these measures were generally successful at first but that, each time, Harris and his employees were able to devise work-arounds to circumvent these security measures. Harris's ability to consistently defeat Motorola and Charter in a game of "cat and mouse," thereby ensuring that he and his customers could continue to steal internet service, shows great sophistication, which makes this enhancement appropriate here. *See, e.g., United States v. Watt*, 707

<sup>4</sup> The agent calculated this figure by subtracting from the total revenue any items that could possibly have been considered as business expenses.

F. Supp. 2d 149, 154-55 (D.Mass. 2010) (Gertner, J.) (applying sophisticated means enhancement to defendant who wrote computer hacking code).

**C. Leader/Organizer**

The evidence throughout the trial demonstrated that TCNiSO was Harris's company and that he was the leader of the fraud scheme (he was the president and CEO; controlled the website, bank account, and PayPal account; designed himself or directed the development of all products; and kept almost all of the company's profit). On February 28, 2012, the sixth day of trial, the Court found, for the purpose of the co-conspirator exception to the hearsay rule, that Craig Phillips, Isabella Lindquist, and the people using the on-line names "MooreR" and "Mr T," were all Harris's co-conspirators.

The evidence established that Harris supervised all of these co-conspirators and also supervised Chris Watts, a.k.a. "L3x," the Australian software coder. At Harris's request, Phillips served as an officer of TCNiSO and opened a company bank account, but Harris controlled the company's finances, kept almost all of the profit for himself, made all decisions about the company's products, and was the point of contact for all of the other employees. Lindquist, MooreR, and Watts were all software coders who wrote software at Harris's request and under his direction. Mr. T was a reseller of Harris's products, to whom Harris agreed to pay a sales commission. Therefore, Harris was the leader of a criminal activity that involved five or more participants.

**D. Restitution**

To this point, the only victim ISP that has attempted to determine the losses Harris caused is Charter. As is discussed above, Charter estimated its loss from Harris's TCNiSO products at \$304,641. But, as is also discussed above, the evidence at trial that some of the TCNiSO modems

did not actually provide free internet service or provided free service for only a limited period of time means that the assumption Charter used in making these calculations (that TCNiSO customers in Charter areas received free service from the time they bough the modem until October 2010) is likely overstated. The government has therefore reached an agreement with defense counsel to jointly recommend, as a restitution amount, half the \$304,641 figure, or \$152,320. The parties agree that this figure reasonably takes into account both Charter's calculation and the trial testimony. *See United States v. Matos*, 611 F.3d 31, 45 (1<sup>st</sup> Cir. 2010) (absolute precision is not required in calculating restitution; only a modicum of reliable evidence is required); *United States v. Mahone*, 453 F.3d 68, 74 (1<sup>st</sup> Cir. 2006) (same). Restitution payments to Charter should be directed to:

Charter Communications  
Attention Laurie Jill Wood  
12405 Powerscourt Dr.  
St. Louis, MO 63131

#### **E. Forfeiture**

The superseding indictment in this case contains a forfeiture allegation, seeking to forfeit proceeds of the crimes and substitute assets. The government has, therefore, done some investigation to determine whether there are any assets or proceeds that can be forfeited but has not identified any. This is corroborated by the fact that Harris has had appointed counsel throughout this case. The only asset of significance that could potentially be forfeited is Harris's house, in Redmond, Oregon, but the U.S. Attorney's Office's forfeiture unit has determined that the debt on this property exceeds the current value by approximately \$55,000. In light of this, the government

is not pursuing the forfeiture allegation in the superseding indictment.

Respectfully submitted,

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Acting United States Attorney

By: /s/ Adam Bookbinder  
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CERTIFICATE OF SERVICE

I hereby certify that this document, filed through the ECF system, will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

/s/ Adam J. Bookbinder

Dated: June 13, 2012